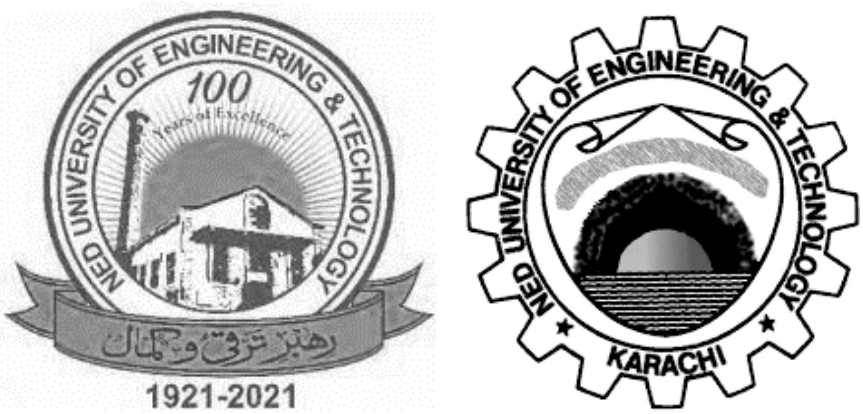


NED University of Engineering and Technology

Department of Petroleum Engineering

Bachelor of Engineering in Petroleum

DEPARTMENTAL OUTCOME BASED EDUCATION (OBE) FRAMEWORK

Batch 2025 onwards

Contents

1. Vision Statement

a. University Vision

Be a leader in enabling Pakistan's social and economic transformation.

b. Department Vision

To educate and prepare the students for exploitation of hydrocarbon resources of world in general and of Pakistan in particular, in the most technically, economically and environmentally viable manner.

2. Mission Statement

a. University Mission

Acquire education and research excellence in engineering and allied disciplines to produce leadership and enabling application of knowledge and skills for the benefit of the society with integrity and wisdom.

b. Programme Mission

To produce quality professionals equipped with problem solving skills, ethical values, health and safety standards and skills to petroleum engineering principles in order to serve the industry, academia and other R&D institutes.

3. Program Educational Objectives (PEOs)

The Petroleum Engineering programme at the Department of Petroleum Engineering produces graduates who:

PEO-1: Exhibit comprehensive understanding of applied sciences integrated with core knowledge of Petroleum Engineering discipline using technological innovation.

PEO-2: Communicate and work efficiently to solve diverse engineering challenges.

PEO-3: Pursue successful professional practices considering inter-disciplinary prospects for the sustainable development of the environment and society.

PEO-4: Work independently as well as in multi-disciplinary teams proficiently with determination for life-long learning.

4. Mapping of PEOs to University and Departmental Vision and Mission

Vision and Mission		Program Educational Objectives (PEOs)			
		PEO-1	PEO-2	PEO-3	PEO-4
University Vision	Be a leader[2] in enabling Pakistan's social[3] and economic transformation[1, 4].	✓	✓	✓	✓
University Mission	Acquire education and research excellence[4] in engineering and allied disciplines to produce leadership[2] and enabling application of knowledge and skills[1] for the benefit of the society[3] with integrity and wisdom.	✓	✓	✓	✓
Department's Vision	To educate and prepare the students[4] for exploitation of hydrocarbon resources of world[2] in general and of Pakistan in particular, in the most technically[1], economically and environmentally[3] viable manner.	✓	✓	✓	✓
Programme's Mission	To produce quality professionals[1,3] equipped with problem solving skills[2], ethical values, health and safety standards and skills to petroleum engineering principles in order to serve the industry[4], academia and other R&D institutes.	✓	✓	✓	✓

5. Knowledge and Attitude (WKs) Profiles

To foster cognitive, psychomotor, and affective development in mathematical, computational, design, and creative thinking, the curriculum incorporates nine knowledge and attitude profiles (WKs) that define the expected learning volume and graduate performance standards.

- **WK1:** A systematic, theory-based understanding of the natural sciences applicable to the discipline and awareness of relevant social sciences.

- **WK2:** Conceptually-based mathematics, numerical analysis, data analysis, statistics and formal aspects of computer and information science to support detailed analysis and modelling; applicable to the discipline.

- **WK3:** A systematic, theory-based formulation of engineering fundamentals required in the relevant engineering discipline.

- **WK4:** Engineering specialist knowledge that provides theoretical frameworks and bodies of knowledge for the accepted practice areas in the engineering discipline; much is at the forefront of the discipline.

- **WK5:** Knowledge, including efficient resource use, environmental impacts, whole-life cost, re-use of resources, net zero carbon, and similar concepts, that supports engineering design and operations in a practice area.

- **WK6:** Knowledge of engineering practice (technology) in the practice areas in the engineering discipline.

- **WK7:** Knowledge of the role of engineering in society and identified issues in engineering practice in the discipline, such as the professional responsibility of an engineer to public safety and sustainable development (Represented by the 17 UN Sustainable Development Goals (UN-SDG)

- **WK8:** Engagement with selected knowledge in the current research literature of the discipline, awareness of the power of critical thinking and creative approaches to evaluate emerging issues.

- **WK9:** Ethics, inclusive behavior and conduct; Knowledge of professional ethics, responsibilities, and norms of engineering practice. Awareness of the need for diversity by reason of ethnicity, gender, age, physical ability, etc. with mutual understanding and respect, and of inclusive attitudes.

6. Program Learning Outcomes (PLOs)

Programme Learning Outcomes (PLOs) form a set of individually assessable outcomes that are the components indicative of the graduate's potential to acquire competence to practice at the appropriate level.

- **PLO-1 Engineering Knowledge:** Apply knowledge of mathematics, natural science, engineering fundamentals and Engineering specialization to the solution of complex engineering problems (WK1-WK4).

- **PLO-2 Problem Analysis:** Identify, formulate, conduct research literature, and analyze complex Engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences and engineering sciences (WK1-WK4).

- **PLO-3 Design/Development of Solutions:** An ability to design solutions for complex engineering problems and design systems, components or processes that meet specified needs with appropriate consideration for public health and safety, cultural, societal, and environmental considerations (WK-5).

- **PLO-4 Investigation:** Conduct investigation of complex Engineering problems using research-based knowledge and research methods, including design of experiments, analysis and interpretation of data, and synthesis of information to provide valid conclusions (WK-8).

- **PLO-5 Tool Usage:** Create, select and apply appropriate techniques, resources, and modern engineering and IT tools, including prediction and modeling, to complex Engineering problems, with an understanding of the limitations (WK-2 and WK-6).

- **PLO-6 The Engineer and the World:** Analyze and evaluate sustainable development impacts to society, the economy, sustainability, health and safety, legal frameworks, and the environment while solving complex engineering problems (WK-1, WK-5, and WK-7).

- **PLO-7 Ethics:** Apply ethical principles and commit to professional ethics and norms of engineering practice and adhere to relevant national and international laws. Demonstrate an understanding of the need for diversity and inclusion (WK-9).

- **PLO-8 Individual and Collaborative Team Work:** Function effectively as an individual, and as a member or leader in diverse and inclusive teams and in multi-disciplinary, face-to-face, remote and distributed settings (WK-9).

- **PLO-9 Communication:** Communicate effectively and inclusively on complex engineering activities with the engineering community and with society at large, such as being able to comprehend and write effective reports and design documentation, and make effective presentations, taking into account cultural, language, and learning differences (WK-1 and WK-9).

- **PLO-10 Project Management and Finance:** Demonstrate knowledge and understanding of engineering management principles and economic decision making and apply these to one's own work, as a member and leader in a team, to manage projects in multidisciplinary environments (WK-2 and WK-5).

- **PLO-11 Lifelong Learning:** Recognize the need for, and have the preparation and ability for i) independent and life-long learning ii) adaptability to new and emerging technologies and iii) critical thinking in the broadest context of technological change (WK-8 and WK-9).

7. Mapping of PLOs to PEOs

Program Learning Outcomes (PLOs)	Program Educational Objectives (PEOs)			
	PEO-1	PEO-2	PEO-3	PEO-4
PLO 1: Engineering Knowledge	✓			
PLO 2: Problem Analysis		✓		
PLO 3: Design / Development of solutions		✓		
PLO 4: Investigation		✓		
PLO 5: Tool Usage	✓			
PLO 6: The Engineer and the World			✓	
PLO 7: Ethics			✓	
PLO 8: Individual and Collaborative Team Work				✓
PLO 9: Communication		✓		
PLO 10: Project Management and Finance				✓
PLO 11: Lifelong Learning				✓

8. Professional Competence (ECs) Profiles

Engineering Competencies (ECs) are expected to be demonstrated by graduates during their practical experiences, which have been mapped with PLOs to reflect integration in the designed curriculum.

- **EC1 Comprehend and Apply Universal Knowledge:** Comprehend and apply advanced Engineering knowledge of the widely-applied principles underpinning good practices.
- **EC2 Comprehend and Apply Local Knowledge:** Comprehend and apply advanced Engineering knowledge of the widely-applied principles underpinning good practice specific to the jurisdiction of practices.
- **EC3 Problem Analysis:** Define, investigate and analyze complex Engineering problems using data and information technologies where applicable.
- **EC4 Design and Development of Solutions:** Design or develop solutions to complex Engineering problems considering a variety of perspectives and taking account of stakeholder views.
- **EC5 Evaluation:** Evaluate the outcomes and impacts of complex Engineering activities.
- **EC6 Protection of Society:** Recognize the foreseeable economic, social, and environmental effects of complex Engineering activities and seek to achieve sustainable outcomes.
- **EC7 Legal, Regulatory, and Cultural:** Meet all legal, regulatory, and cultural requirements and protect public health and safety in the course of all Engineering activities.
- **EC8 Ethics:** Conduct Engineering activities ethically.
- **EC9 Manage Engineering Activities:** Manage part or all of one or more complex Engineering activities.
- **EC10 Communication and Collaboration:** Communicate and collaborate using multiple media clearly and inclusively with a broad range of stakeholders in the course of all Engineering activities.
- **EC11 Continuing Professional Development (CPD) and Lifelong Learning:** Undertake CPD activities to maintain and extend competences and enhance the ability to adapt to emerging technologies and the ever-changing nature of work.
- **EC12 Judgment:** Recognize complexity and assess alternatives in light of competing requirements and incomplete knowledge. Exercise sound judgement in the course of all complex Engineering activities.
- **EC13 Responsibility for Decisions:** Be responsible for making decisions on part or all of complex Engineering activities.

9. Sustainable Development Goals (SDGs)

The Sustainable Development Goals (SDGs) are a set of 17 interlinked global goals established by the United Nations in 2015 as part of the 2030 Agenda for Sustainable Development. They are designed to be a blueprint to achieve a better and more sustainable future for all by addressing various global challenges, including poverty, inequality, climate change, environmental degradation, peace, and justice.

- **SDG 1 No Poverty:** End poverty in all its forms everywhere.
- **SGD 2 Zero Hunger:** End hunger, achieve food security and improved nutrition, and promote sustainable agriculture.
- **SGD 3 Good Health and Well-being:** Ensure healthy lives and promote well-being for all at all ages.
- **SGD 4 Quality Education:** Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all.
- **SGD 5 Gender Equality:** Achieve gender equality and empower all women and girls.
- **SGD 6 Clean Water and Sanitation:** Ensure availability and sustainable management of water and sanitation for all.
- **SGD 7 Affordable and Clean Energy:** Ensure access to affordable, reliable, sustainable, and modern energy for all.
- **SGD 8 Decent Work and Economic Growth:** Promote sustained, inclusive, and sustainable economic growth, full and productive employment, and decent work for all.
- **SGD 9 Industry, Innovation, and Infrastructure:** Build resilient infrastructure, promote inclusive and sustainable industrialization, and foster innovation.
- **SGD 10 Reduced Inequalities:** Reduce inequality within and among countries.
- **SGD 11 Sustainable Cities and Communities:** Make cities and human settlements inclusive, safe, resilient, and sustainable.
- **SGD 12 Responsible Consumption and Production:** Ensure sustainable consumption and production patterns.
- **SGD 13 Climate Action:** Take urgent action to combat climate change and its impacts.
- **SGD 14 Life below Water:** Conserve and sustainably use the oceans, seas, and marine resources for sustainable development.
- **SGD 15 Life on Land:** Protect, restore, and promote sustainable use of terrestrial ecosystems, manage forests sustainably, combat desertification, halt and reverse land degradation, and halt biodiversity loss.
- **SGD 16 Peace, Justice, and Strong Institutions:** Promote peaceful and inclusive societies for sustainable development, provide access to justice for all, and build effective, accountable, and inclusive institutions at all levels.
- SGD 17 Partnerships for the Goals: Strengthen the means of implementation and revitalize the global partnership for sustainable development.

10. Mapping of Bachelors of Engineering Program with UN SDGs

Description	UN SDGs																
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
University vision and mission	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Bachelor of Engineering Curriculum (Engg. and Non-Engg. Courses)			✓	✓	✓	✓	✓	✓	✓			✓	✓	✓	✓		✓
Final Year Design Project (FYDP)			✓	✓	✓	✓	✓	✓	✓			✓	✓	✓	✓		✓
Other pre-requisite activities (Internship, Community service, Survey camp, etc.)			✓		✓	✓	✓	✓	✓	✓		✓	✓	✓			✓
Co- and Extra-Curricular Activities	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

11. Correlation Matrix PLOs-ECs-WKs-SDGs

A correlation matrix has been established to link Program Learning Outcomes (PLOs) with the corresponding engineering competencies (ECs), knowledge and attitude profiles (WKs), as well as the targeted UN Sustainable Development Goals (SDGs) by 2030.

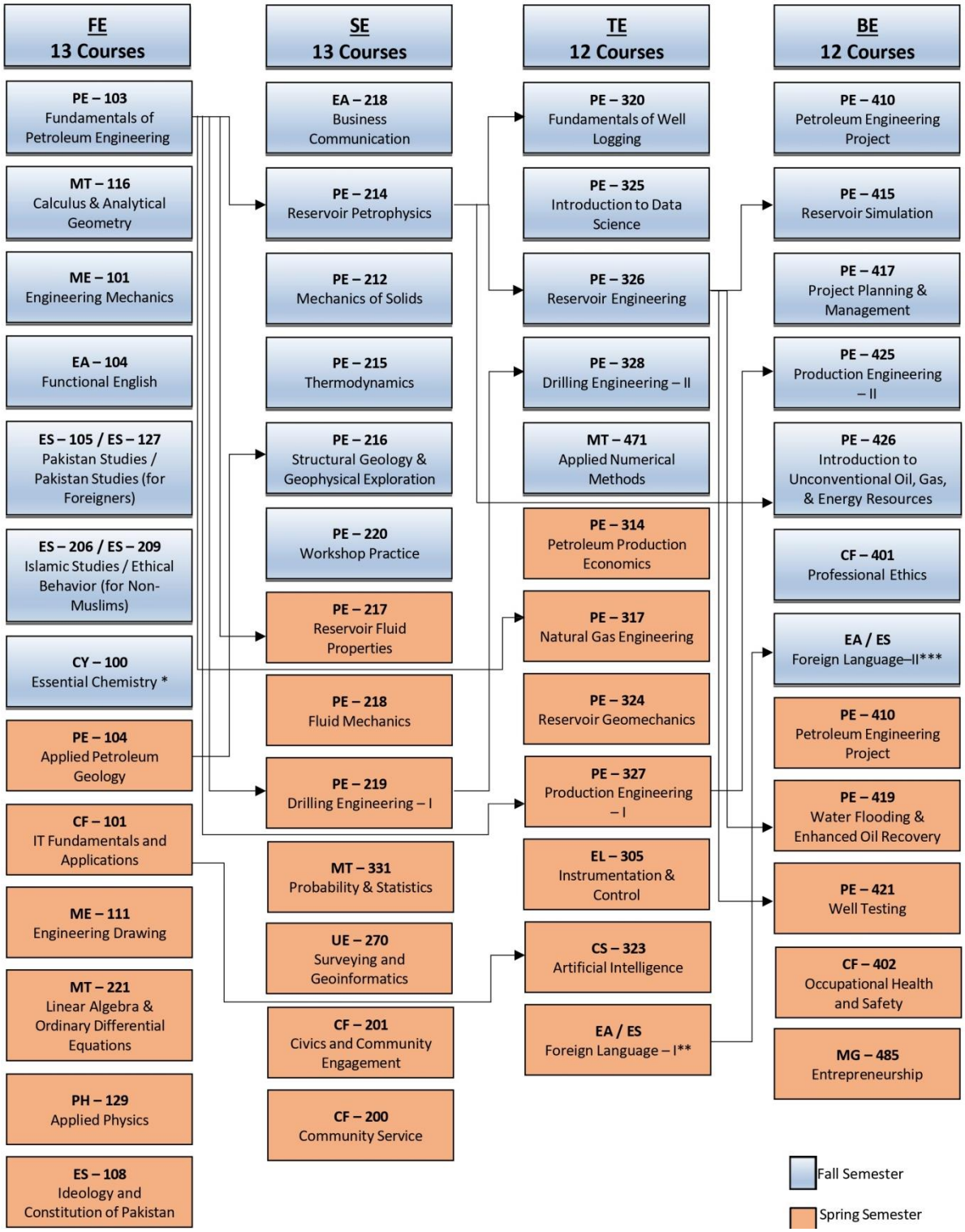
PLOs	ECs	WKs	SDGs
PLO-1 Engineering Knowledge	EC-1 Comprehend and apply universal knowledge EC-2 Comprehend and apply local knowledge	WK-1 Natural sciences and awareness of relevant social sciences WK-2 Mathematics & computing WK-3 Engineering fundamentals WK-4 Engineering specialist knowledge	SDG-9
PLO-2 Problem Analysis	EC-3 Problem analysis	WK-1 Natural sciences and awareness of relevant social sciences WK-2 Mathematics & computing WK-3 Engineering fundamentals WK-4 Engineering specialist knowledge	Selected SDGs are 4 and 9
PLO-3 Design/ Development of Solutions	EC-4 Design and development of solutions	WK-5 Engineering design and operations	Selected SDGs are 4, 7 and 9
PLO-4 Investigation	EC-5 Evaluation	WK-8 Research literature	SDG-9
PLO-5 Tool Usage	EC-3 Problem analysis EC-5 Evaluation	WK-2 Mathematics & computing WK-6 Engineering practice	SDG-9

PLO-6 The Engineer and the World	EC-6 Protection of society EC-7 Legal, regulatory, and cultural	WK1 Natural sciences and awareness of relevant social sciences WK-5 Engineering design and operations WK7 Engineering in Society	Selected SDGs are 4, 7, 13, and 17
PLO-7 Ethics	EC-8 Ethics	WK-9 Ethics, inclusive behavior and conduct	SDG-5 SDG-10 SDG-16
PLO-8 Individual and Collaborative Team work	EC-10 Communication and Collaboration	WK-9 Ethics, inclusive behavior and conduct	SDG-5 SDG-10 SDG-16
PLO-9 Communication	EC-10 Communication and Collaboration	WK-1 Natural sciences and awareness of relevant social sciences WK-9 Ethics, inclusive behavior and conduct.	SDG-5 SDG-10 SDG-16
PLO-10 Project Management and Finance	EC-9 Manage engineering activities	WK-2 Mathematics & computing WK-5 Engineering design and operations	SDG-9 SDG-10
PLO-11 Lifelong Learning	EC-11 Continuing Professional Development (CPD) and lifelong learning EC-12 Judgment EC-13 Responsibility for decisions	WK-8 Research literature	SDG-3 SDG-4 SDG-8 SDG-9 SDG-12 SDG-13

12. Scheme of Studies

Petroleum Engineering									
First Year									
Fall Semester					**Spring Semester**				
Course Code	**Course Title**	**Credit Hrs**			**Course Code**	**Course Title**	**Credit Hrs**		
		Th	**Pr**	**Total**			**Th**	**Pr**	**Total**
ES-105/ES-127	Pakistan Studies/Pakistan Studies (For foreigners)	2	0	2	ES-108	Ideology and Constitution of Pakistan	2	0	2
ES-206/ES-209	Islamic Studies/Ethical Behavior (For non-Muslims)	2	0	2	CF-101	IT Fundamentals and Applications	2	1	3
EA-104	Functional English	3	0	3	MT-221	Linear Algebra and Ordinary Differential Equations	3	0	3
MT-116	Calculus & Analytical Geometry	3	0	3	PH-129	Applied Physics	3	0	3
PE-103	Fundamentals of Petroleum Engineering	2	0	2	ME-111	Engineering Drawing	2	1	3
ME-101	Engineering Mechanics	3	1	4	PE-104	Applied Petroleum Geology	2	1	3
CY-100	Essential Chemistry	NC							
	Total	**15**	**1**	**16**		**Total**	**14**	**3**	**17**
Second Year									
Fall Semester					**Spring Semester**				
Course Code	**Course Title**	**Credit Hrs**			**Course Code**	**Course Title**	**Credit Hrs**		
		Th	**Pr**	**Total**			**Th**	**Pr**	**Total**
EA-218	Business Communication	2	1	3	PE-217	Reservoir Fluid Properties	3	1	4
PE-214	Reservoir Petrophysics	3	1	4	PE-218	Fluid Mechanics	2	1	3
CE-212	Mechanics of Solids	3	1	4	PE-219	Drilling Engineering – I	3	1	4
PE-215	Thermodynamics	2	1	3	MT-331	Probability & Statistics	3	0	3
PE-216	Structural Geology and Geophysical Exploration	3	0	3	UE-270	Surveying and Geoinformatics	1	1	2
PE-220	Workshop Practice	0	1	1	CF-201	Civics and Community Engagement	2	0	2
					CF-200	Community Service	NC		
	Total	**13**	**5**	**18**		**Total**	**14**	**4**	**18**
Third Year									
Fall Semester					**Spring Semester**				
Course Code	**Course Title**	**Credit Hrs**			**Course Code**	**Course Title**	**Credit Hrs**		
		Th	**Pr**	**Total**			**Th**	**Pr**	**Total**
PE-325	Introduction to Data Science	2	1	3	PE-314	Petroleum Production Economics	2	0	2
PE-328	Drilling Engineering-I	3	1	4	PE-327	Production Engineering	3	0	3
PE-326	Reservoir Engineering	3	1	4	PE-317	Natural Gas Engineering	2	1	3
PE-320	Fundamentals of Well Logging	2	1	3	PE-324	Reservoir Geomechanics	2	0	2
MT-471	Applied Numerical Methods	2	1	3	EL-305	Instrumentation & Control	3	1	4
					CS-323	Artificial Intelligence	3	1	4
					EA/ES	Foreign Language - I	NC		
	Total	**12**	**5**	**17**		**Total**	**15**	**3**	**18**
Final Year									
Fall Semester					**Spring Semester**				
Course Code	**Course Title**	**Credit Hrs**			**Course Code**	**Course Title**	**Credit Hrs**		
		Th	**Pr**	**Total**			**Th**	**Pr**	**Total**
PE-415	Reservoir Simulation	3	1	4	PE-419	Water Flooding & Enhanced Oil Recovery	3	1	4
PE-417	Project Planning & Management	3	0	3	PE-421	Well Testing	3	1	4
PE-426	Introduction to Unconventional Oil, Gas, & Energy Resources	2	0	2	CF-402	Occupational Health and Safety	1	0	1
PE-425	Production Engineering-II	3	1	4					
PE-410	Petroleum Engineering Project	0	3	3	PE-410	Petroleum Engineering Project	0	3	3
CF-401	Professional Ethics	2	0	2	MG-485	Entrepreneurship	2	0	2
	Foreign Language - II	NC							
	Total	**13**	**5**	**18**		**Total**	**9**	**5**	**14**
** Duration one academic year: Requires literature survey and preliminary work during this Semester*									

Course Dependency Chart



13. Mapping of Curriculum to PLOs

		Bachelors in Petroleum Engineering Courses	Program Learning Outcomes (PLOs)										
			PLO-1	PLO-2	PLO-3	PLO-4	PLO-5	PLO-6	PLO-7	PLO-8	PLO-9	PLO-10	PLO-11
First Year	Fall	ES-105 Pakistan Studies ES-127 Pakistan Studies for Foreigners						C2 C2					
		ES-206 Islamic Studies ES-209 Ethical Behavior(for non-Muslims)							C2 C2				
		EA-104 Functional English											
		MT-116 Calculus & Analytical Geometry											
		PE-103 Fundamentals of Petroleum Engineering	C2 C3					C2					
		ME-101 Engineering Mechanics											
	Spring	ES-108 Ideology and Constitution of Pakistan						C2 C2					C3
		CF-101 IT Fundamentals and Applications											
		MT-221 Linear Algebra and Ordinary Differential Equations											
		PH-129 Applied Physics											
		ME-111 Engineering Drawing											
		PE-104 Applied Petroleum Geology	C1 C2			P1							
		CY-100 Essentials of Chemistry											
Second Year	Fall	ES-218 Business Communication									A3 C3 C6		
		PE-214 Reservoir Petro-physics	C2	C3		C4	P3						
		CE-212 Mechanics of Solids	C2	C3		P3							
		PE-215 Thermodynamics	C2	C3			P3						
		PE-216 Structural Geology and Geophysical Exploration	C2			P3		C2					C3
		PE-220 Workshop Practice											P3 P3
	Spring	PE-217 Reservoir Fluid Properties	C2	C3		C4	P3						
		PE-218 Fluid Mechanics	C2	C3		C4	P3						
		PE-219 Drilling Engineering-I		C3		P3		C2				C3	
		MT-331 Probability & Statistics	C2	C4									
		UE-270 Surveying and Geoinformatics	C2 C2	C3			P1						
		CF-201 Civics and Community Engagement											
		CF-200 Community Service											

Bachelors in Petroleum Engineering Courses			Program Learning Outcomes (PLOs)										
			PLO-1	PLO-2	PLO-3	PLO-4	PLO-5	PLO-6	PLO-7	PLO-8	PLO-9	PLO-10	PLO-11
Third Year	Fall	PE-325 Introduction to Data Science	C2	C3			P3		C2				C3
		PE-328 Drilling Engineering-II	C3		C5		P3			A3			
		PE-326 Reservoir Engineering	C2	C3	C3		P3						C4
		PE-320 Fundamentals of Well Logging	C2			P3				A3	A3		
		MT-471 Applied Numerical Methods	C3	C2 P3									
	Spring	PE-314 Petroleum Production Economics							C2			C3	C2
		PE-327 Production Engineering-I	C2	C3				C3					
		PE-317 Natural Gas Engineering	C2			P3		C2					
		PE-324 Reservoir Geomechanics	C2	C3		C4							
		EL-305 Instrumentation & Control	C1	C3		C4 P3							
		CS-323 Artificial Intelligence	C3		C3		C3						
		EA/ES Foreign Language-I											
Fourth Year	Fall	PE-415 Reservoir Simulation	C2	C3	C5		P3			A3			
		PE-417 Project Planning & Management	C2							A3	A3	C3	C4
		PE-425 Production Engineering-II	C2	C4		C3	P3						
		PE-426 Introduction to Unconventional Oil, Gas, & Energy Resources	C2	C3				C2	C2				
		PE-410 Petroleum Engineering Project		C	C			C	A	A	A	A	
		CF-401 Professional Ethics											
		EA/ES Foreign Language-II											
	Spring	PE-419 Water Flooding & Enhanced Oil Recovery	C2		C5	P3						C3	
		PE-421 Well Testing	C2		C5	C6	P3						
		CF-402 Occupational Health and Safety											
		PE-410 Petroleum Engineering Project		C	C				A	C,A	C,A	C	C
		MG-485 Entrepreneurship							C2	C3			
		Internship	C	C				A	A	A	A		

14. Key Performance Indicators (KPIs)

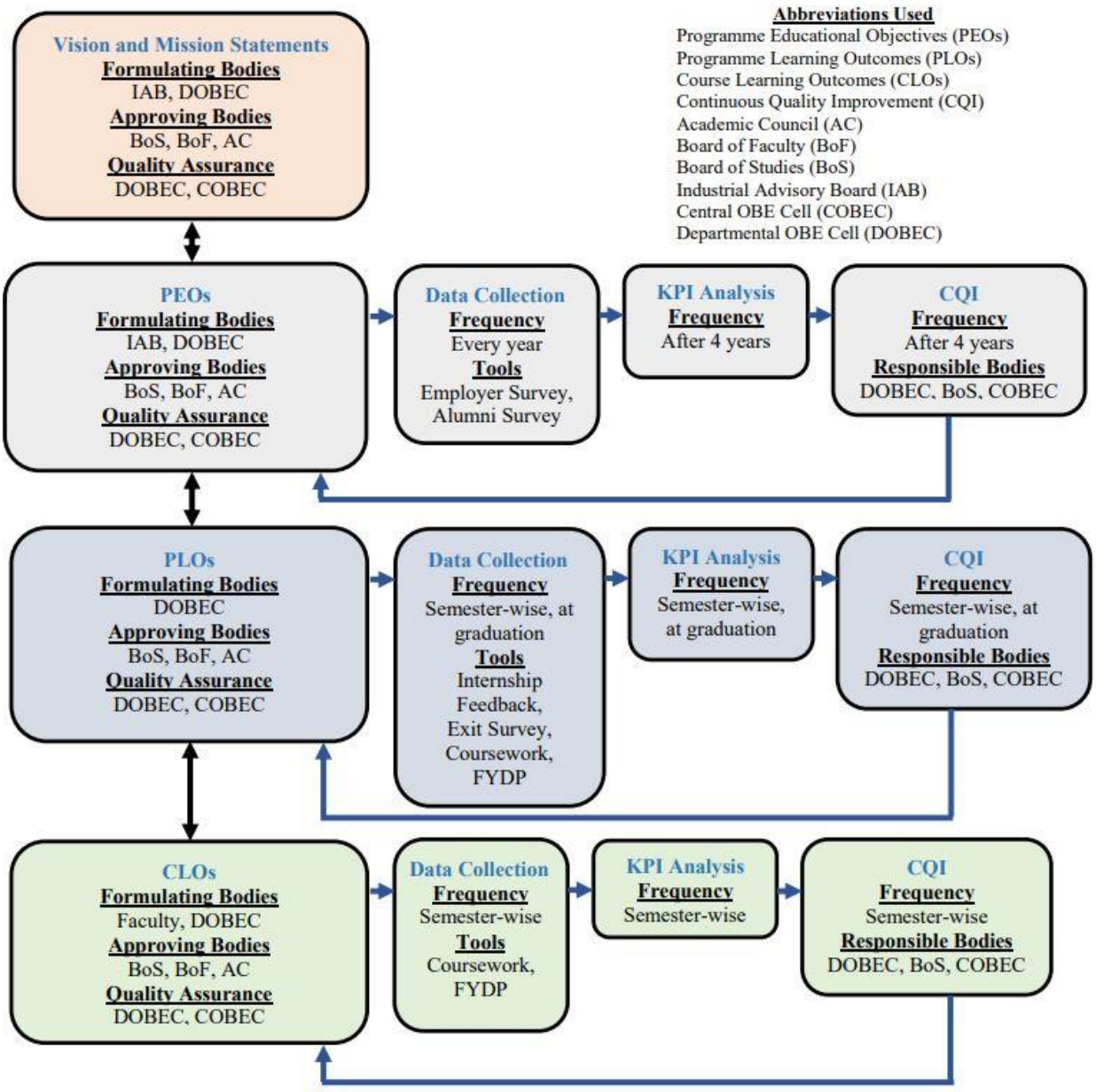
		Evaluation Tool	KPI	Data Collection Frequency	Analysis Frequency
PEO	Programme	▪ Employer Feedback Survey ▪ Alumni Feedback Survey ▪ Employment Statistics	50% of the Survey Form responses must attain a score of 3 or above on a scale of 1 to 5, and 50% of the graduates must be employed and/or engaged in higher studies.	Every Year	4 years from graduation
PLO	Student	▪ CLO scores of the student in the mapped course(s)	Each PLO must be attained in at least 60% of the respective mapped course(s), with an average score of at least 60%.	Every Semester	Every Semester
	Course	▪ PLO scores of all the students in the mapped course	At least 60% of the students must attain that PLO	Every Semester	Every Semester
	Programme	▪ Final PLO attainment statistics of all the courses including FYDP ▪ Internship Feedback Form ▪ Exit Survey	At least 60% of the mapped courses must attain the PLO and at least 60% of the students/ responses must attain a score of 3 or above on a scale of 1 to 5.	At graduation	At graduation
CLO	Student	▪ Course work	The student must obtain at least 60% average percentage score from all attempts.	Every Semester	Every Semester
	Course	▪ CLO scores of all students in the course	At least 60% of the students must attain that CLO	Every Semester	Every Semester

15. Continuous Quality Improvement (CQI)

The following table shows the post KPI evaluation actions, severity-wise, as outlined in the Manual of Uniform OBE Framework.

	PEO CQI	PLO CQI			CLO CQI	
	Program KPI	**Student KPI**	**Course KPI**	**Programme KPI**	**Student KPI**	**Course KPI**
KPIs Achieved	▪ No Action	▪ No Action	▪ No Action	▪ No Action	▪ No Action	▪ No Action
KPIs Not Achieved	1. Review of curriculum strategies. 2. Review of assessment methods. 3. Review of the relevant KPIs. 4. Review of PEOs. 5. Revisions implemented.	1. Warning through the progressive attainment sheet. 2. Student counselling.	1. Review of teaching and learning process. 2. Review of CLOs assessment methods. 3. Review of CLO-PLO mapping and the relevant KPIs. 4. Review of curriculum design. 5. Revisions implemented.	1. Review of teaching and learning process. 2. Review of PLOs assessment methods. 3. Review of Course-PLO mapping and the relevant KPIs. 4. Review of curriculum design. 5. Revisions implemented.	1. Student provided further chances through direct assessment tools. 2. Student counselling.	1. Review of CLO assessment methods. 2. Review of CLOs and taxonomy levels. 3. Review of students' course feedback. 4. Review of CLO KPIs. 5. Faculty advice by Departmental OBE Cell. 6. Faculty training.

The following figure shows the overall OBE framework for an Engineering Programme as outlined in the Manual of Uniform OBE Framework.


Abbreviations Used
Programme Educational Objectives (PEOs)
Programme Learning Outcomes (PLOs)
Course Learning Outcomes (CLOs)
Continuous Quality Improvement (CQI)
Academic Council (AC)
Board of Faculty (BoF)
Board of Studies (BoS)
Industrial Advisory Board (IAB)
Central OBE Cell (COBEC)
Departmental OBE Cell (DOBEC)
Vision and Mission Statements
Formulating Bodies
IAB, DOBEC
Approving Bodies
BoS, BoF, AC
Quality Assurance
DOBEC, COBEC
PEOs
Formulating Bodies
IAB, DOBEC
Approving Bodies
BoS, BoF, AC
Quality Assurance
DOBEC, COBEC
Data Collection
Frequency
Every year
Tools
Employer Survey, Alumni Survey
KPI Analysis
Frequency
After 4 years
CQI
Frequency
After 4 years
Responsible Bodies
DOBEC, BoS, COBEC
PLOs
Formulating Bodies
DOBEC
Approving Bodies
BoS, BoF, AC
Quality Assurance
DOBEC, COBEC
Data Collection
Frequency
Semester-wise, at graduation
Tools
Internship Feedback, Exit Survey, Coursework, FYDP
KPI Analysis
Frequency
Semester-wise, at graduation
CQI
Frequency
Semester-wise, at graduation
Responsible Bodies
DOBEC, BoS, COBEC
CLOs
Formulating Bodies
Faculty, DOBEC
Approving Bodies
BoS, BoF, AC
Quality Assurance
DOBEC, COBEC
Data Collection
Frequency
Semester-wise
Tools
Coursework, FYDP
KPI Analysis
Frequency
Semester-wise
CQI
Frequency
Semester-wise
Responsible Bodies
DOBEC, BoS, COBEC